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UNIVERSITY of PENNSYLVANIA

PHILADELPHIA 4

The School of Medicine

DEPARTMENT OF PEDIATRICS
1740 Bainbridge Street
Philadelphia 46, Pa.

May 26, 1954

Dr. Sol Spiegelman
Department of Bacteriology
University of Illinois
Urbana, Ill.

Dear Sol:

I am sending the thymineless mutant, 15T-, and its parent, strain 15, under separate cover. I find it difficult to see how Luria could have lost the bug since its reversion rate is quite low. There is a paper in press to appear to appear in J. Bact. in June or July which you will have to read to work with 15T- without wasting a great deal of time. Also I have just completed the first draft of our adaptation work which I hope to send off in the near future. I will have the final mimeographed and ship you a copy.

Monod and Pollock have also written in the last week asking for the bug and data, since they also wish to explore induced biosynthesis in mutants. The area will be somewhat crowded and I may add beset with traps. For instance, a uracilless mutant loses the ability to respire on glucose in uracil deficiency, etc.

As a result of isotope experiments with 15T-, I have tentatively concluded that a very low rate of thymine synthesis does exist in the organism, amounting to 2 to 4% of the normal requirement. Nevertheless, this is inadequate to prevent death due to unbalanced growth. This bug really has a thymine deficiency which prevents all but 4% of the normal DNA synthesis. Nevertheless, the intervals for induction

and synthesis are not delayed, nor are the initial rates or amounts of enzyme synthesis.

Of course I'll be glad to hear of your new experiments if you manage to come through. The family will be at Woods Hole again this year.

Best regards to Helen and yourself.

Sincerely yours,

Seymour

Seymour S. Cohen

SSC/bj